CELTIC AI Proposers Webinar
31st March 2020, 14:00 – 17:00 CET

Pitch of the Project Proposal

AI4orce
Standardized AI for Logistics Automation on Resource
Constrained IoT

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Teaser

Today

1. Centralized AI methods require a lot of IT resources (CPU, RAM, GPU). Powerful hardware is mandatory
2. A lot of data is needed in the right format and a very good quality covering the reality as much as possible
3. Shifting AI results to an operational level is **always** an individual task and takes a lot of time

➔ This leads to high invests for AI and for a measureable benefit

With **AI4orce** we want to develop
    a standardized AI approach that is resource aware
    an AI approach that requires only "standard HW"
    results are easy-to-integrate.

Fraunhofer IML

Fraunhofer Institute for Material Flow and Logistics

A Institute of Fraunhofer Society,
Europe's largest application-oriented
research organization

Located in Dortmund, Germany

270 employees & 270 students

Planning logistics – securing mobility – shaping the future

We are actively working with industry in logistics domain.

We develop technologies like Internet of Things nodes for in diverse application areas, e.g. manufacturing, material flow control systems

We work on AI, Machine Learning and IT infrastructures to enable new ecosystems to enable a digital market for the European economy

MATERNA

Information & Communications

Located in Dortmund, Germany
2200 employees & 14 locations

Substance matters – autonomy experts – organizing free space

Materna is a b2b IT service provider. The family business is located in Dortmund for about 40 years.

The e-government products of Materna SE achieve the highest impact in Germany.

The computing lab for artificial intelligence is prepared for cloud and big data analytics purposes. The nationally well-acknowledged software mobility data market place (mdm) is developed and maintained by Materna SE. We are actively working in mobility and logistics domain.

Proposal Introduction

Idea

- Resource constraints in IOT in logistics limits usage of AI (technical topic)

- Privacy constraints and governance requires a standardized framework beyond federated learning (how to distribute, how to update models incrementally, how to scale with available resources)

- Mobility & Supply Chain Optimization (functional topic)

Project outcome

- Resource aware proactive supply chain management by usage of distributed real-time prognosis and analysis methods for massive heterogeneous data streams

- Standardized AI architecture for simplified business scenario integration

- Proof of concept demonstrators

Proposal - Goals

Technical Perspective

- Distributed Resource Constrained AI Algorithms

- Standardized AI process and data preparation

- Standardized AI results to reduce efforts for process integration

Business Scenario Perspective

- Optimization and predictive planning of transports and mobility scenarios
  - reduce traffic and emissions
  - reduce costs of transports
  - enable & support synchromodality
  - enable & support seamless integration

Partners

- Materna SE – IT Platform & Service Provider, IT & AI Partner
- Fraunhofer IML – IT Architecture, AI (link to ML2R), Transfer Research to Industry

- Industry with Use-Case
- Industry, embedded systems manufacturer
- Industry, system design
- Industry, [logistics / transport / mobility] service operator
- Research, University on AI
- Research, University on Resource Constraint AI

Contact Info

For more information and for interest to participate please contact:

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